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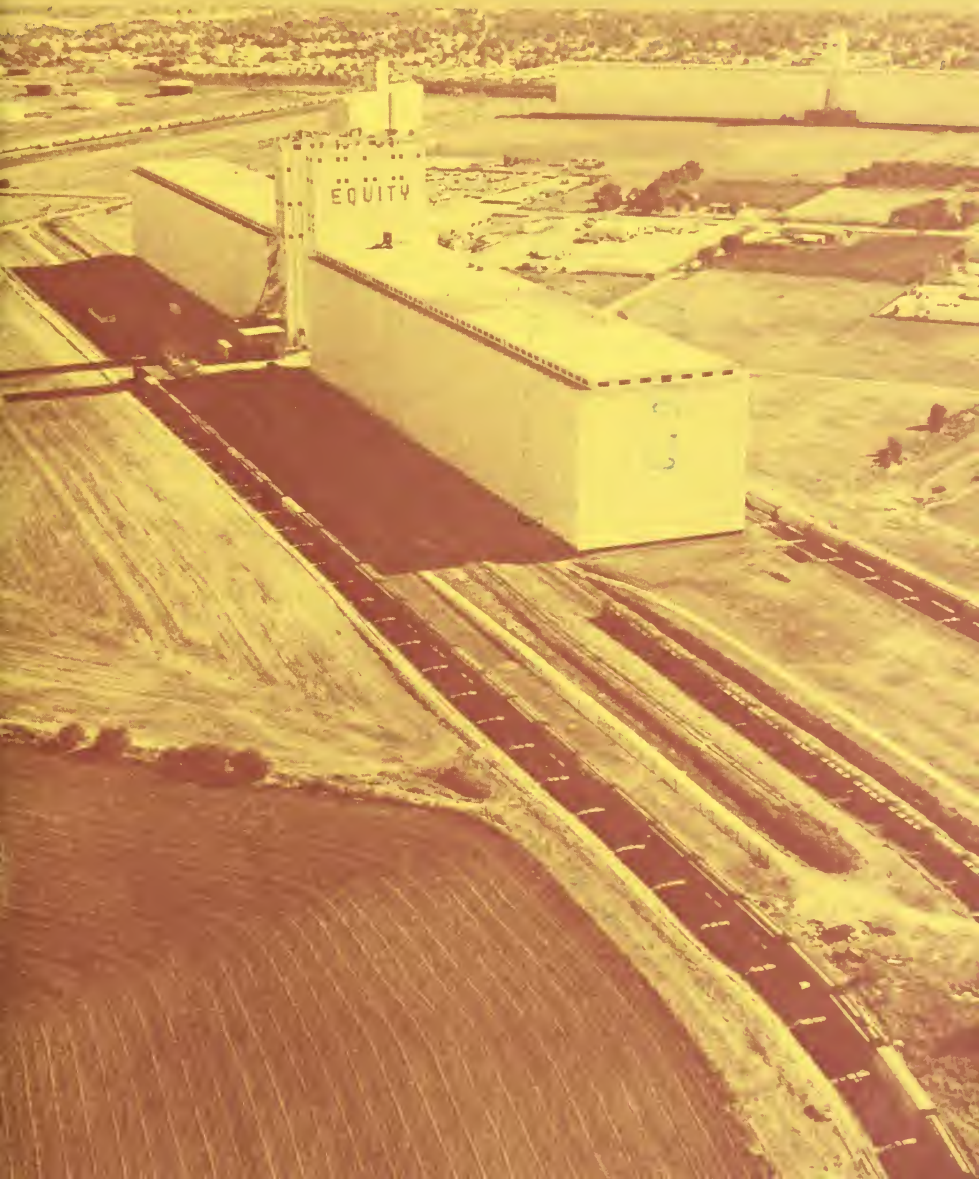
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# Regional Grain Cooperatives, 1980 and 1981

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# Abstract

## **Regional Grain Cooperatives, 1980 AND 1981**

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Regional and interregional cooperatives increased the volume of grain handled in 1980, and again in 1981, to a total of 3 billion bushels—up from 2.5 billion bushels in 1979. Total storage capacity of their subterminals and terminals rose to 494 million bushels. Corn, at 1.4 billion bushels, ranked as the leading grain handled by those 19 grain cooperatives. Major facility improvements and increased farm grain sales were two contributors to the growth. The grain cooperatives in this study marketed 98 percent of total grain volume (excluding rice and edible beans) of all regional cooperatives.

**Key words:** Grains, oilseeds, regional cooperatives, interregional cooperatives, grain elevator, hopper car, barge, cooperative exports.

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# Highlights

Regional and interregional grain cooperatives have increased substantially their annual grain volume handled since the midseventies: from 1.8 billion bushels in fiscal year 1977 to 2.5 billion bushels in 1979, and to 3 billion bushels in 1981 (an overall increase of 65 percent).

Originations of grain by these cooperatives for the export market in response to the sharp rise in demand in the latter seventies accounted for more than four-fifths of the increase. Facilitating the cooperatives' response were major facility improvements and a streamlining of organizational structure.

Principal grains handled in 1981 continued to be corn, nearly 1.4 billion bushels; wheat, 819 million bushels; and soybeans, 602 million bushels. Their combined volume accounted for 92 percent of the total grain volume handled. Other grains handled were: grain sorghum, 166 million bushels; barley, 44 million; sunflower seed, 23 million; oats, 17 million; and rye and flaxseed, 7 million bushels.

The following data exemplify the increasing activity of regional and interregional grain cooperatives:

- In 1981, the 16 primary regionals had 2,669 member local associations with elevators in 4,404 towns or rural locations. This compares with 2,568 and 4,061, respectively, 2 years earlier. Their storage capacity totaled 2.3 billion bushels in 1981, up 10 percent from 1979.

- Nine regionals operated 380 local line elevators in 1981. They represented nearly 9 percent of the total number of cooperative country elevators affiliated with or owned by regionals and interregionals and 6 percent of their storage capacity. Regionals and interregionals operated 118 centrally controlled subterminal and terminal elevators, 38 of which are near water: 26 on navigable rivers, 4 on the Great Lakes, 5 on the gulf coast, 2 on the Atlantic coast, and 1 on the Pacific coast. The remaining 80 are at interior locations.

- Storage capacity of the regionals and interregionals was 494 million bushels of grain at terminal, subterminal, and processing locations—81 million bushels at ports, 58 million on navigable rivers, and 355 million at inland locations. Nearly 60 percent of the river capacity is on the Mississippi.

- During fiscal year 1981, regionals leased 8,403 and owned 103 rail hopper cars, a total of 8,506. This was 504 fewer than the record-



high 9,010 rail cars reported for 1980, but 4,842 more than in fiscal year 1978.

- Barge shipments of grain down the Mississippi and Columbia Rivers accounted for a substantial portion of the regionals' grain shipments. Five regionals and CF Industries jointly own a barge company, Agri-Trans Corporation, which operates 9 towboats and about 465 barges in the Mississippi River system.

- Facilities acquired recently by regionals include Far-Mar-Co's purchase in 1981 of Farmers Export Company's Galveston port elevator and AGRI Industries' purchase in late 1980 of the former Goodpasture export elevator in Houston.

- The 16 primary regionals and 3 interregionals disposed of their grain in fiscal year 1981 by processing 6 percent of it in their own plants, selling 27 percent to domestic outlets, and shipping 67 percent to ports for export. The proportion shipped to port areas has been rising steadily since the midseventies, from 55 percent in 1976 to 62 percent in 1978 and 1979, and to 67 percent in 1981. Accompanying this has been a declining proportion of their grain moving to domestic outlets.

- Export disposition in fiscal year 1981 was slightly more than 2 billion bushels, compared with 1.5 billion 2 years earlier and 1 billion in fiscal year 1977. Originations of grain by the regionals and interregionals in fiscal year 1981 for export accounted for an estimated 41 percent of total U.S. grain exports. This compares with an estimated 35 percent in fiscal year 1979 and 30 percent in fiscal year 1977.

- Regionals and interregionals shipped 60 percent, or 1.2 billion bushels, of their export originations (2 billion bushels) through their own export port elevators in fiscal year 1981. This proportion has varied annually from 57 to 63 percent since 1975. Noncooperative export port elevators received 819 million bushels in fiscal year 1981, a volume equivalent to that of about five export elevators.



*Union Equity's 8.5-million-bushel port elevator at Houston, Tex., loaded this giant ship with nearly 3.2 million bushels of hard red winter wheat. Union Equity loads about 24 percent of all U.S. hard red winter wheat exports.*

*Cover Page: Union Equity Cooperative Exchange has more than 50 million bushels of storage capacity in Enid, Okla. In the foreground are elevators "Y" and "Z" with elevators "B" and "A" in the background.*



# Regional Grain Cooperatives, 1980 and 1981

*Stanley K. Thurston and David E. Cummins*

This report examines the operations of 16 primary regional and 3 interregional grain cooperatives during fiscal years 1980 and 1981 (fig. 1). Other regional grain cooperatives are not included because their volumes were relatively low. The 19 cooperatives marketed about 98 percent of the total grain volume (excluding rice and edible beans) of all regional cooperatives.

From 1979 to 1981, their annual grain volume increased from 2.5 billion to 3 billion bushels; dispositions for export increased from 1.5 billion to 2 billion bushels; and volume of cooperative port elevators increased from 927 million bushels to 1.2 billion bushels.

During the same period, U.S. farm grain sales increased only about 1 percent, while U.S. grain exports increased 14 percent. The increase in grain exports largely resulted from a relatively strong export demand.

## **ORGANIZATIONAL AND FACILITY CHANGES**

Since fiscal year 1979, significant changes have occurred in the organization and facilities of regional grain cooperatives. Such changes occurred when interest costs and inflation were high and unfavorable crop conditions prevailed in some areas.

### **Organizational Changes**

Far-Mar-Co set up a new subsidiary, Grain Marketing, Inc., which opened offices in Kansas City, Mo, and Omaha, Nebr. Similar to subsidiaries established by other regional grain cooperatives, this new company helps local cooperatives with cash and hedging transactions.

Figure 1

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## Location of Regional and Interregional Grain Cooperatives' Headquarters, 1981



### PRIMARY REGIONAL GRAIN COOPERATIVES

1. AGRI Industries, Des Moines, Iowa
2. Far-Mar-Co., Inc., Hutchinson, Kans.
3. Farm Bureau Services, Inc., Lansing, Mich.
4. Farmers Union Grain Terminal Assn., St. Paul, Minn.
5. Gold Kist, Inc., Atlanta, Ga.
6. GROWMARK, Inc., Bloomington, Ill.
7. Indiana Farm Bureau Cooperative Assn., Inc., Indianapolis, Ind.
8. Landmark, Inc., Columbus, Ohio
9. MFC Services (AAL), Madison, Miss.
10. Missouri Farmers Assn., Inc., Columbia, Mo.
11. North Pacific Grain Growers, Inc., Portland, Oreg.
12. Ohio Farmers Grain Corp., Fostoria, Ohio
13. Producers Grain Corp., Amarillo, Tex.
14. Riceland Foods, Inc., Stuttgart, Ark.
15. Southern States Cooperative, Inc., Richmond, Va.
16. Union Equity Cooperative Exchange, Enid, Okla.

### INTERREGIONAL GRAIN COOPERATIVES

- A. Farmers Export Co., Kansas City, Mo.
  - B. Mid-States Terminals, Inc., Toledo, Ohio
  - C. St. Louis Grain Corporation, St. Louis, Mo.
-

AGRI Industries established several subsidiary companies in fiscal years 1980 and 1981: AGRI Export Cooperative, Houston, Tex.; Joseph S. Pickett and Sons, a brewery in Dubuque, Iowa; Shippers Stevedoring Co. in Houston, Tex.; and The Travel Center, Ltd., Des Moines, Iowa.

In 1981, Farmers Export Co. (FEC) carried out a restructuring plan as a result of severe financial losses in 1980. The plan included sale of its Galveston port elevator to Far-Mar-Co and reduction in membership from 12 to 6 regional and interregional cooperatives. In 1982, GROWMARK's purchase of all interest in St. Louis Grain Corporation reduced FEC membership to five. Remaining members include Far-Mar-Co, AGRI Industries, Farmers Union Grain Terminal Association (GTA), GROWMARK, and MFA. Under the reorganization, the FEC board has nine members. The four largest regionals—Far-Mar-Co, AGRI Industries, GTA and GROWMARK—are represented on the board by two members each and MFA by one. FEC will concentrate its export movements through its original terminal at Ama, La.

MFA Milling Co., Springfield, Mo., voted to consolidate its feed operations with MFA, Inc., Columbia, Mo., effective September 1, 1981.

Kansas City Terminal Elevator Co. stopped doing business as a grain-merchandising firm and interregional in 1981. Its owners, Far-Mar-Co and MFA, now jointly use the elevator facilities in their respective grain-merchandising operations.

Producers Grain Corporation discontinued buying and selling grain in 1982. The inland terminals at Amarillo, Plainview, Lubbock, and Ft. Worth, Tex., were leased to AGRI Industries. The port elevator at Corpus Christi was sold to Interstate Grain Co. in Houston. With the acquired Texas facilities, AGRI established a new subsidiary and regional grain cooperative in 1982 called AGRI-Producers Cooperative, headquartered in Amarillo.

The Ohio Farmers Grain Corporation merged with The Ohio Farmers Grain and Supply Association in late 1981 and continued operating under the name of The Ohio Farmers Grain and Supply Association.

## **Facility Improvements and Changes**

AGRI Industries purchased the former Goodpasture export elevator in Houston, Tex., in December 1980. This export facility also has general cargo bagging and storage for vegetable oil and liquid fertilizer. AGRI

purchased a 2-million-bushel elevator in Council Bluffs, Iowa, in 1981, which was destroyed by an explosion on April 20, 1982. Also in 1981, AGRI built a 583,000-bushel barge terminal at Fulton, Ill., on the Mississippi River.

Farmers Export Co. reopened its export terminal at Galveston, Tex., in July 1980 after 31 months of reconstruction following an explosion on December 27, 1977. In 1981, Far-Mar-Co acquired this Galveston port elevator from Farmers Export Co. In 1981, Far-Mar-Co also acquired a lease on a 2-million-bushel terminal in Salina, Kans.

Farmers Union Grain Terminal Association made significant improvements in its Superior, Wis., export facility that included a new railcar dump, a vessel-loading spout, an improved conveyor, and pollution-control equipment. A new 565,000-bushel river terminal was completed in June 1982 at Savage, Minn.

Union Equity added 3.3 million bushels of storage at Ft. Worth, Tex., in 1981 and another 3.1 million in 1982, for a new total of 11.8 million bushels at Ft. Worth.

GROWMARK added 500,000 bushels to its Pana, Ill., subterminal in 1981.

Indiana Farm Bureau Cooperative Association in 1981 completed renovation of the elevator system at its export elevator in Baltimore.

Ohio Farmers Grain Corporation purchased two subterminals in 1980: Mansfield, Ohio (1.2 million bushels), and Alger, Ohio (950,000 bushels).

Riceland Foods in 1980 completed construction of a river elevator on the Arkansas River near Dumas, Ark.

Southern States Cooperative, Inc., completed a 390,000-bushel elevator at Winchester, Ky., in 1980.

North Pacific Grain Growers Association added 2.3 million bushels of storage capacity to its export elevator at Kalama, Wash., in 1981.

Mid-States Terminals in Toledo added 3 million bushels of storage capacity in 1981, for a new total of 8.6 million bushels as of February 1981.

Gold Kist sold its soybean-processing plants in Decatur, Ala., and Marks, Miss., to the Bunge Corporation in late 1981.



*At Paxton, Ill., GROWMARK has a 4.1-million-bushel subterminal that serves a 15-county area. Trainloads of grain are shipped to either the Atlantic or gulf coast. Also, multicar shipments are made to domestic users.*

## **GENERAL DESCRIPTION OF REGIONAL COOPERATIVES**

A primary regional grain cooperative generally purchases or handles grain from local line or affiliated elevators or producers within a relatively large land area, ranging from several counties to several States. All regionals included in this report except one have terminal storage facilities that actually receive grain. Some smaller regionals not included in this report do not have terminal facilities but do purchase and ship grain directly from local elevators to sales destinations. An interregional is owned and controlled by two or more primary regionals.



## **Organization**

The primary grain regionals are characterized by diverse types of organization. Ten are principally grain-marketing cooperatives, and nine are grain divisions of larger cooperative organizations. Grain regionals may be federated (local cooperatives that are members of regionals), centralized (with membership composed of individual farmers), or a combination of the two. Control of all regionals lies ultimately with producers.

Grain regionals are largely federated, with local member cooperatives and independent boards of directors and management. The regional's board generally is elected by representatives or delegates from the areas served. Directors are mainly producer-members, but in some instances, they are local managers.

Centralized regionals own and operate local elevators. Such local elevators do not have independent boards of directors but may have local advisory boards instead. The centralized regional's board is elected in the same general manner as that of a federated regional.

### **Member Local Cooperatives**

The 16 primary regionals had 2,669 member local associations or cooperatives with 1 or more elevators at the end of fiscal year 1981 (table 1). Altogether, they reported local elevators in 4,404 towns or rural locations. However, there is some duplication because some local associations are members of more than one regional.

Estimated storage capacity of these 2,669 local associations is 2.3 billion bushels, a significant support factor for the regional marketing system. Local associations for five regionals—Far-Mar-Co, Union Equity, American Grain Related Industries (AGRI Industries), GROWMARK, and Farmers Union GTA—provide 74 percent of such total storage capacity.

Many local cooperatives sell a significant volume of grain outside cooperative channels rather than to their regional. Regionals' share of members' out-of-area sales has been estimated as ranging from an average of 25 to 80 percent.

### **Line or Centrally Controlled Local Elevators**

Nine regionals operated 380 local line elevators (table 2). This type of elevator made up about 9 percent of the country elevators affiliated with or owned by regional grain cooperatives. Total number of cooperative line elevators increased from 362 in 1979 to 380 in 1981.

**Table 1 — Number of member local associations with elevators, number of elevator locations, and estimated storage capacity for cooperative associations affiliated with regional grain cooperatives, end of fiscal year 1981<sup>1</sup>**

| Regional cooperative              | Member associations with elevators | Elevator locations | Estimated storage capacity |
|-----------------------------------|------------------------------------|--------------------|----------------------------|
|                                   | ----- Number -----                 |                    | 1,000 bushels              |
| AGRI Industries.....              | 330                                | 450                | 275,000                    |
| Far-Mar-Co.....                   | 819                                | 1,241              | 627,406                    |
| Farm Bureau                       |                                    |                    |                            |
| Services.....                     | 71                                 | 71                 | 18,720                     |
| Farmers Union GTA.....            | 425                                | 604                | 175,000                    |
| Gold Kist.....                    | 4                                  | 4                  | 380                        |
| GROWMARK.....                     | 164                                | 375                | 212,205                    |
| Indiana Farm Bureau               |                                    |                    |                            |
| Co-op Assn. ....                  | 70                                 | 187                | 49,306                     |
| Landmark.....                     | 60                                 | 130                | 32,000                     |
| MFC Services .....                | 19                                 | 24                 | 13,000                     |
| Missouri Farmers                  |                                    |                    |                            |
| Assn. ....                        | 42                                 | 44                 | 12,163                     |
| North Pacific                     |                                    |                    |                            |
| Grain Growers.....                | 47                                 | 276                | 135,000                    |
| Ohio Farmers Grain                |                                    |                    |                            |
| Corp.....                         | 105                                | 129                | 35,000                     |
| Producers Grain                   |                                    |                    |                            |
| Corp.....                         | 187                                | <sup>2</sup> 200   | <sup>2</sup> 295,000       |
| Riceland Foods <sup>3</sup> ..... | 0                                  | 0                  | 0                          |
| Southern States                   |                                    |                    |                            |
| Co-op .....                       | 0                                  | 0                  | 0                          |
| Union Equity.....                 | 326                                | 669                | 422,878                    |
| Total.....                        | 2,669                              | 4,404              | 2,303,058                  |

<sup>1</sup>Duplicate membership has not been eliminated.

<sup>2</sup>Approximate.

<sup>3</sup>Local elevators affiliated with Riceland Foods have agreements resulting in central control as shown in table 2.

**Table 2—Number and storage capacity of centrally controlled elevators for regional and interregional grain cooperatives, end of fiscal year 1981.**

| Regional or<br>interregional cooperative | Local line<br>elevators |                     | Subterminals<br>and terminals |           |
|--|-------------------------|---------------------|-------------------------------|-----------|
|  | Number                  | Capacity            | Number                        | Capacity  |
|  |                         | 1,000 bu.           |                               | 1,000 bu. |
| <b>Primary regionals:</b>                |                         |                     |                               |           |
| AGRI Industries .....                    | 0                       | 0                   | 10                            | 22,868    |
| Far-Mar-Co .....                         | 0                       | 0                   | 18                            | 129,233   |
| Farm Bureau Services ....                | 20                      | 678                 | 3                             | 8,300     |
| Farmers Union GTA .....                  | 128                     | 27,500              | 20                            | 66,048    |
| Gold Kist .....                          | 83                      | 14,089              | 3                             | 18,000    |
| GROWMARK .....                           | 2                       | 906                 | 8                             | 8,347     |
| Indiana Farm Bureau                      |                         |                     |                               |           |
| Co-op Assn.....                          | 0                       | 0                   | 11                            | 38,408    |
| Landmark .....                           | 0                       | 0                   | 8                             | 11,875    |
| MFC Services .....                       | 3                       | 800                 | 2                             | 1,200     |
| Missouri Farmers Assn...                 | 92                      | 22,226              | 7                             | 15,479    |
| North Pacific Grain                      |                         |                     |                               |           |
| Growers.....                             | 0                       | 0                   | 3                             | 13,649    |
| Ohio Farmers Grain                       |                         |                     |                               |           |
| Corp. ....                               | 5                       | 2,000               | 3                             | 9,650     |
| Producers Grain                          |                         |                     |                               |           |
| Corp. ....                               | 0                       | 0                   | 6                             | 37,310    |
| Riceland Foods .....                     | 37                      | <sup>1</sup> 71,772 | 2                             | 14,340    |
| Southern States Co-op...                 | 10                      | 5,495               | 0                             | 0         |
| Union Equity .....                       | 0                       | 0                   | 6                             | 70,830    |
| Subtotal .....                           | 380                     | 145,466             | 110                           | 465,537   |
| <b>Interregionals:</b>                   |                         |                     |                               |           |
| Farmers Export Co. ....                  | 0                       | 0                   | 2                             | 9,200     |
| Mid-States Terminals.....                | 0                       | 0                   | 1                             | 8,600     |
| St. Louis Grain Corp. ....               | 0                       | 0                   | 5                             | 10,945    |
| Subtotal .....                           | 0                       | 0                   | 8                             | 28,745    |
| TOTAL .....                              | 380                     | 145,466             | 118                           | 494,282   |

<sup>1</sup>Represents capacity for storing and handling soybeans and rice. Excludes storage for 2 rice mills.

In addition to the 380 line country elevators, the 16 primary regionals operated about 110 centrally controlled subterminals and terminals. These were established primarily to serve member cooperatives and smaller line elevators. In addition, the three interregionals had eight terminal elevators.

Storage capacity of the 380 local line elevators totaled over 145 million bushels at the end of fiscal year 1981, an average of 383,000 bushels per elevator. In comparison, the 4,404 member local elevators averaged 523,000 bushels per elevator.

*Regionals have nearly 140 million bushels of storage capacity at ocean, lake, and river ports. The pictured elevator of St. Louis Grain Corporation (Now GROWMARK) is on the Mississippi River. It loads out feed grains, wheat, and soybeans for barge shipment principally to the Gulf for export.*



## Terminals, Subterminals, and Processing Plants

Storage capacity of 110 terminals and subterminals for the 16 primary regionals was 466 million bushels at the end of fiscal year 1981 (table 2). The eight terminals of the three interregionals had total storage of 29 million bushels. Thus, combined storage capacity of 118 terminals and subterminals for the 19 regionals was 494 million bushels, compared with 464 million bushels at the end of fiscal year 1979.

Terminal facilities mentioned above included storage capacity for nine soybean-processing plants and seven other grain-processing plants, not including feed mills (appendix table 1).

Of the 494 million bushels of total storage capacity, 81 million bushels are at export locations, 58 million bushels on navigable rivers, and 355 million bushels at inland locations (fig. 2).

A breakdown of all capacity except that of export elevators reveals 340 million bushels at grain-merchandising elevators, 42 million at soybean plant elevators, and 31 million bushels at other grain-processing plants.

Figure 2

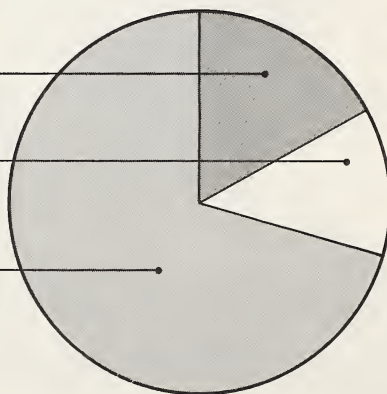
### Storage Capacity of 19 Regional Grain Cooperatives, 1981\*

Million Bushels

Export  
Locations  
81

Navigable River  
Locations 58

Inland Locations 355



**Total Capacity = 494**

\*Excludes local line and affiliated member elevators.



## Elevators Served by Water Transportation

Regionals have 37 terminal and subterminal elevators on navigable rivers or at ports. Of the total, 25 are on rivers, 4 on the Great Lakes, 5 on the gulf coast, 1 on the Pacific coast, and 2 on the Atlantic coast (appendix table 2).

Thus, cooperatives have significant port facilities in most important coastal areas and several elevators on major navigable rivers. Storage capacity of these elevators built near water represents about 28 percent of the primary regionals' total terminal grain storage capacity.

## Leased and Owned Transportation Equipment

Thirteen regional grain cooperatives owned or were leasing 8,506 hopper cars at the end of fiscal year 1981 (table 3). This represented a slight

**Table 3—Covered hopper cars leased or owned by primary regional grain cooperatives, fiscal years ended in 1978-81.<sup>1</sup>**

| Regional cooperative            | Fiscal year ended in— |       |       |       |
|---------------------------------|-----------------------|-------|-------|-------|
|                                 | 1978                  | 1979  | 1980  | 1981  |
|                                 | <i>Number</i>         |       |       |       |
| AGRI Industries.....            | 1,047                 | 1,950 | 983   | 735   |
| Far-Mar-Co. <sup>2</sup> .....  | 940                   | 1,455 | 2,663 | 2,549 |
| Farm Bureau Services.....       | 51                    | 76    | 116   | 65    |
| Farmers Union GTA.....          | 265                   | 206   | 2,200 | 2,000 |
| Gold Kist.....                  | 200                   | 392   | 225   | 260   |
| GROWMARK.....                   | 200                   | 250   | 317   | 317   |
| Indiana Farm Bureau Co-op Assn. | 550                   | 1,100 | 990   | 980   |
| Landmark.....                   | 86                    | 185   | 256   | 240   |
| MFC Services.....               | —                     | 100   | 100   | 100   |
| Missouri Farmers Assn.....      | 100                   | 100   | 100   | 237   |
| Ohio Farmers Grain Corp.....    | 0                     | 0     | 172   | 168   |
| Producers Grain Corp.....       | 125                   | 121   | 392   | 363   |
| Union Equity.....               | 100                   | 248   | 496   | 492   |
| Total.....                      | 3,664                 | 6,183 | 9,010 | 8,506 |

<sup>1</sup>Some cars were leased for part of a year and some were subleased to others.

<sup>2</sup>Includes hopper cars *owned* by Far-Mar-Co: 115 in 1978 and 1979, 633 in 1980, and 103 in 1981.



*At Silver Grove, Ky., Landmark operates a small, fast-handling river house that serves farmers and local cooperatives by shipping grain to domestic and export locations.*



*The 1.5-million-bushel subterminal at Sidney, Ohio, was built by Landmark, Inc., Columbus, Ohio, to provide producers and county Farm Bureau cooperatives the benefit of lower rail rates available from unit-train shipments for export.*

decrease from 1980, when the number peaked at 9,010 hopper cars, but was considerably higher than the 3,664 cars in 1978. In recent years, regional grain cooperatives have found it necessary to have their own cars to help ensure an adequate supply.

In fiscal year 1981, five regional grain cooperatives leased a total of 546 tank cars, used principally for shipping vegetable oil.

Barge shipments of grain account for a large portion of the regionals' grain shipments, especially movements to port elevators near New Orleans and Portland. One regional owned two barges on the Columbia River system. Need for individual barge leasing has diminished greatly on the Mississippi River system, because five regional grain cooperatives and CF Industries jointly purchased a barge company in July 1974 and formed Agri-Trans Corporation, a barge cooperative. Headquartered in Sunset Hills, Mo., the cooperative barges grain down the Mississippi River and returns with fertilizer material. It now operates 9 towboats and owns about 465 barges.

## **TOTAL GRAIN VOLUME AND DISPOSITION**

### **Volume Handled**

Annual volume of grain handled by the primary regional and interregional grain cooperatives reached the 3-billion-bushel mark in 1981, up 9 percent from a year earlier and 65 percent from 1977 (fig. 3). Grain volume growth of these cooperatives during this period was greater than that of U.S. farm grain sales and exports. Their combined total grain volumes are net of duplicate volumes between the regionals and interregionals and their purchases of nonmember grain.

### **Disposition by Type of Outlet**

Disposition of grain falls into three major categories: that processed by the cooperatives in their own plants, domestic sales, and export sales. The primary regionals ship large volumes of grain to both domestic and export markets, while the interregionals ship nearly all their grain to the export market.

**Primary Regionals** The 16 primary regionals handled 2.5 billion bushels of grain in 1980 and 2.8 billion bushels in 1981, or about 90 percent of combined total volume handled (table 4). Most (84 percent) of the increase in total volume handled was grain shipped to the export market; all the increase in the domestic markets was attributed to unprocessed grain sales.

Figure 3

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**Cooperative Net Grain Volume and Disposition, FY 1978-81\***

Million Bushels



\*For 19 regional and interregional grain cooperatives.

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**Table 4—Grain disposition by type of outlet for 16 primary regional grain cooperatives and 4 interregionals, fiscal years ended in 1978-81.**

| Item                                     | Fiscal year ended in—  |         |         |                    |
|--|------------------------|---------|---------|--------------------|
|  | 1978                   | 1979    | 1980    | 1981               |
| <b>Primary regionals:</b>                | <i>Million bushels</i> |         |         |                    |
| Domestic disposition:                    |                        |         |         |                    |
| Grain processed in own plant.....        | 161.7                  | 205.7   | 195.5   | 178.6              |
| Domestic sales of grain.....             | 748.8                  | 782.4   | 850.4   | 916.0              |
| Subtotal.....                            | 910.5                  | 988.1   | 1,045.9 | 1,094.6            |
| Export disposition: <sup>1</sup>         |                        |         |         |                    |
| Through co-op port elevators.....        | 711.1                  | 825.7   | 849.9   | 978.9              |
| Through nonco-op port elevators .....    | 452.0                  | 473.8   | 573.8   | 700.9              |
| Subtotal.....                            | 1,163.1                | 1,299.5 | 1,423.7 | 1,679.8            |
| Total disposition .....                  | 2,073.6                | 2,287.6 | 2,469.6 | 2,774.4            |
| <b>Interregionals:<sup>2</sup></b>       |                        |         |         |                    |
| Domestic disposition:                    |                        |         |         |                    |
| Domestic sales of grain.....             | 11.5                   | 36.8    | 46.3    | 22.5               |
| Subtotal.....                            | 11.5                   | 36.8    | 46.3    | 22.5               |
| Export disposition:                      |                        |         |         |                    |
| Through co-op port elevators.....        | 458.8                  | 395.5   | 453.9   | 500.6              |
| Through nonco-op port elevators .....    | 50.6                   | 277.1   | 436.3   | 247.6              |
| Subtotal.....                            | 509.4                  | 672.6   | 890.2   | 748.2              |
| Total disposition .....                  | 520.9                  | 709.4   | 936.5   | <sup>3</sup> 770.7 |
| <b>All grain associations:</b>           |                        |         |         |                    |
| Domestic disposition:                    |                        |         |         |                    |
| Grain processed in own plant.....        | 161.7                  | 205.7   | 195.5   | 178.6              |
| Domestic sales of grain.....             | 656.3                  | 716.0   | 805.4   | 834.7              |
| Subtotal.....                            | 818.0                  | 921.7   | 1,000.9 | 1,013.3            |
| <b>Export disposition:<sup>2</sup></b>   |                        |         |         |                    |
| Through co-op port elevators.....        | 849.7                  | 927.0   | 1,023.0 | 1,212.7            |
| Through nonco-op port elevators .....    | 503.5                  | 606.7   | 775.0   | 819.4              |
| Subtotal.....                            | 1,353.2                | 1,533.7 | 1,798.0 | 2,032.1            |
| Total net disposition <sup>4</sup> ..... | 2,171.2                | 2,455.4 | 2,798.9 | 3,045.4            |

<sup>1</sup>Grain shipped by regional grain cooperatives.

<sup>2</sup>Grain volumes for these grain cooperatives originate largely with the primary regionals.

<sup>3</sup>Represents 3 interregionals.

<sup>4</sup>Reflects the elimination of duplicate volumes among regionals, adjustments for final regional disposition, and additions of nonmember volumes of the interregionals.

Soybeans continued to be the principal grain processed by primary regionals. Six operated nine soybean-processing plants in 1981 (appendix table 1). Small volumes of barley, wheat, flax, and sunflower seed also were processed. Data on grains processed into feeds were not obtained.

Export disposition reached a record high of 1.7 billion bushels in 1981, up 18 percent from a year earlier and 44 percent from 1978. Nearly a billion, or 58 percent, of those bushels were shipped through the primary regionals' own cooperative export elevators. The proportion shipped through cooperative export elevators was only slightly lower than that in 1980, averaging 60 percent for the past 4 years.

**Interregionals** Interregionals—four in 1980 and three in 1981—serving member regionals handled a record 936 million bushels in 1980, up 32 percent from 1979, but followed by a sharply lower 771 million bushels in 1981 (table 4). Proportion of grain shipped by interregionals through their port elevators dropped sharply from 90 percent in 1978 to 51 percent in 1980, before rising to 67 percent in 1981. Volume shipped through interregional port elevators was about the same in 1978 and in 1980, while volume shipped through noncooperative port elevators increased nearly ninefold. Grain volume shipped through noncooperative port elevators then dropped about 189 million bushels, or 43 percent, in 1981, accompanied by a 10-percent increase in the volume shipped through interregional port elevators.

**Combined Volume** Combined *net* volume of total disposition for the primary regionals and interregionals topped 3 billion bushels in 1981, up about 250 million from the previous year and more than 874 million from 1978 (appendix table 3). Annual increases since 1978 in export disposition, which averaged 64 percent of total disposition during 1978-81, accounted for 78 percent of the increase in total disposition.

### **Disposition by Type of Grain**

Gross volume of grain handled by the primary regionals and interregionals exceeded 3.5 billion bushels in 1981, up slightly from 1980, but nearly a billion more bushels than in 1978. Corn accounted for 45 to 46 percent of the volume in 1980 and 1981, up from 40 percent for the previous 2 years, followed by wheat (25 and 27 percent, respectively), and soybeans (21 to 23 percent over the 4 years). These three principal grains represented 90 to 92 percent of total volume of all grains handled during 1978-81 (table 5).

**Primary Regionals** Corn, wheat, and soybeans comprised 89 to 91 percent of the total annual grain volume handled by the 16 primary regionals during 1978-81. Corn comprised 43 percent of the total volume in 1981, up from 42 percent in 1980; wheat, 28 percent, up from 25 percent; and soybeans, 20 percent, down from 22 percent. Volumes of corn and wheat handled increased 134 million and 162.5 million bushels, respectively, in 1981, while that of soybeans was unchanged (table 5). Volume of grain sorghum handled, about 6 percent of the total in 1981, was only slightly larger than the volume in 1980. Volumes of the lesser grains were about the same in both years.

**Table 5—Grain disposition (sold or processed) by type of grain for 16 primary regional grain cooperatives and 4 interregionals, fiscal years ended in 1978-81.**

| Item                               | Fiscal year ended in— |         |         |                    |
|------------------------------------|-----------------------|---------|---------|--------------------|
|                                    | 1978                  | 1979    | 1980    | 1981               |
| <i>Million bushels</i>             |                       |         |         |                    |
| <b>Primary regionals:</b>          |                       |         |         |                    |
| Wheat .....                        | 658.7                 | 667.6   | 621.0   | 783.5              |
| Corn .....                         | 771.3                 | 887.9   | 1,048.0 | 1,182.1            |
| Oats .....                         | 20.5                  | 30.9    | 10.9    | 16.0               |
| Barley .....                       | 60.0                  | 68.8    | 42.2    | 44.1               |
| Sorghum .....                      | 143.6                 | 127.3   | 166.1   | 169.7              |
| Soybeans .....                     | 405.3                 | 471.1   | 548.8   | 548.3              |
| Rye .....                          | 0.7                   | 2.8     | 2.9     | 2.9                |
| Flaxseed .....                     | 3.6                   | 5.1     | 5.2     | 4.5                |
| Sunflower seed .....               | 9.8                   | 26.1    | 24.5    | 23.3               |
| Total .....                        | 2,073.5               | 2,287.6 | 2,469.6 | 2,774.4            |
| <b>Interregionals:<sup>1</sup></b> |                       |         |         |                    |
| Wheat .....                        | 89.0                  | 120.3   | 206.4   | 125.0              |
| Corn .....                         | 238.7                 | 352.9   | 492.4   | 440.3              |
| Oats .....                         | 3.2                   | 3.3     | 3.9     | 3.1                |
| Sorghum .....                      | 25.6                  | 14.0    | 34.4    | 9.2                |
| Soybeans .....                     | 164.4                 | 218.9   | 199.4   | 193.1              |
| Total .....                        | 520.9                 | 709.4   | 936.5   | <sup>2</sup> 770.7 |

<sup>1</sup>Volumes for these grain cooperatives originate largely with the primary regionals.

<sup>2</sup>Represents 3 interregionals.



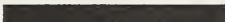





**Interregionals** Combined volume of corn, wheat, and soybeans handled by interregionals in 1981 was 140 million bushels less than in 1980, with wheat down 81.4 million, corn down 52.1 million, and soybeans down 6.3 million bushels. Corn accounted for 57 percent of the total volume handled, up from 53 percent in 1980 and 46 percent in 1978. Soybean volume made up 25 percent of the total, up from 21 percent a year earlier, but below the 31-percent share in 1978 and 1979. Wheat's share rose to 22 percent in 1980 from 17 percent in the 2 previous years, but dropped to 16 percent in 1981.

**Combined Volume** The interregionals contributed a net of 271 million bushels of grain to the total volume handled by the 16 regionals in 1981. This total volume was nearly 18 percent less than that of a year earlier, but well above those in 1978 and 1979 (table 4).

*Net disposition of the principal grains—corn, wheat, soybeans—accounted for about 90 percent of the total during 1978-81. The percentage share for corn rose steadily during this period, from 37 percent in 1978 to 45 percent in 1981. Wheat made up 27 percent of the total in 1981, compared with 24 percent in 1980 and 32 percent in 1978. Soybeans' share held steady at about 20 percent, as did grain sorghum at about 6 percent (appendix table 4 and fig. 4).*

Figure 4

### Net Volumes of Grains Handled by Grain Cooperatives, FY 1981\*

| Million Bushels |       |   |
|-----------------|-------|---|
| Corn            | 1,367 |  |
| Wheat           | 819   |  |
| Soybeans        | 602   |  |
| Sorghum         | 166   |  |
| Barley          | 44    |  |
| Sunflower seed  | 23    |  |
| Oats            | 17    |  |
| Other           | 7     |  |
|                 |       | Total = 3,045   |

\*For 19 regional and interregional grain cooperatives.



*The 10,500-horsepower M/V Cooperative Spirit,  
owned by Agri-Trans Corporation, moves 56 barges  
—one of the Mississippi's largest flotillas,  
consisting of more than 8 acres of barges  
—northbound past the Memphis riverfront.*







## Regionals' Volume Relative to Farm Sales

The primary regionals' share of total farm grain sales was approximated by comparing their total grain sales volume with the total U.S. farm grain sales volume for the same grains. The figure is an approximation because these regional cooperatives' varying fiscal years do not correspond to crop years for the crops included in U.S. farm sales.

Grain sales by the primary regionals have increased considerably and more rapidly than U.S. farm grain sales since 1970 (table 6). Their total sales volume of nearly 2.8 billion bushels in 1981, a record 30 percent of total U.S. grain sales, was 2.5 times larger than the 1970 volume. Even though the primary regional grain cooperatives' share has fluctuated from year to

**Table 6—Grain sales: U.S. farm total and that for the 16 primary regional grain cooperatives, fiscal and crop years ended in 1970-81<sup>1</sup>**

| Fiscal year ended in—       | Crop year | U.S.farm sales <sup>2</sup> | Regional co-op sales <sup>3</sup> | Regional sales as a proportion of U.S. farm sales |
|-----------------------------|-----------|-----------------------------|-----------------------------------|---|
| ----- Million bushels ----- |           |                             | Percent                           |   |
| 1970                        | 1969-70   | 6,300                       | <sup>4</sup> 1,118                | 17.7  |
| 1971                        | 1970-71   | 5,886                       | <sup>4</sup> 1,165                | 19.8  |
| 1972                        | 1971-72   | 7,229                       | <sup>4</sup> 1,205                | 16.7  |
| 1973                        | 1972-73   | 7,212                       | 1,624                             | 22.5  |
| 1974                        | 1973-74   | 7,943                       | 1,559                             | 19.6  |
| 1975                        | 1974-75   | 6,776                       | 1,561                             | 23.0  |
| 1976                        | 1975-76   | 8,429                       | 1,895                             | 22.5  |
| 1977                        | 1976-77   | 8,297                       | 1,752                             | 21.1  |
| 1978                        | 1977-78   | 8,840                       | 2,074                             | 23.5  |
| 1979                        | 1978-79   | 9,068                       | 2,288                             | 25.2  |
| 1980                        | 1979-80   | 10,567                      | 2,470                             | 23.4  |
| 1981                        | 1980-81   | 9,177                       | 2,774                             | 30.2  |

<sup>1</sup>The grains are wheat, corn, oats, barley, sorghum, soybeans, rye, flaxseed, and sunflower seed. Fourteen primary regionals are for 1970-77 and 16 for 1978-81.

<sup>2</sup>Crop year data. Data are from *Field Crops: Production, Disposition, Value*, selected issues, ESCS, USDA.

<sup>3</sup>Fiscal year data.

<sup>4</sup>Approximate.

year since 1970, it has trended upward, from 19 percent for 1970-74 to 23 percent for 1975-79, and to 27 percent for the past 2 years.

Combined net share for the primary regional and interregional cooperatives in fiscal year 1981 for each type of grain handled varied from 42.3 percent for grain sorghum to 33 to 36 percent for corn, wheat, and soybeans; and to 10 percent for oats (table 7). Cooperatives' share for all crops was higher than that in 1980, ranging from 1 to 9 percentage points.

The primary regionals' share of total U.S. farm grain sales was 30 percent for all grains in fiscal year 1981 (table 8). Their share had varied from one-fifth to one-quarter during the previous 7 years. Individual crop shares were higher in 1981 than in 1980 for all crops, and record shares were realized for corn, soybeans, and grain sorghum.

**Table 7—Grain sales: U.S. farm total and that for the primary regional and interregional grain cooperatives, by type of grain, fiscal and crop years ended in 1980 and 1981.**

| Type of grain                   | U.S. farm grain sales <sup>1</sup> |         | Co-op grain sales <sup>2</sup> |         | Co-op sales as share of U.S. farm sales |         |
|---------------------------------|------------------------------------|---------|--------------------------------|---------|---|---------|
|                                 | 1979-80                            | 1980-81 | FY 1980                        | FY 1981 | FY 1980                                 | FY 1981 |
|                                 | ----- Million bushels -----        |         |                                |         | --- Percent ---                         |         |
| Wheat .....                     | 2,046                              | 2,266   | 677                            | 819     | 33.1                                    | 36.1    |
| Corn .....                      | 4,963                              | 4,146   | 1,244                          | 1,367   | 25.1                                    | 33.0    |
| Oats .....                      | 205                                | 160     | 12                             | 16      | 5.9                                     | 10.0    |
| Barley .....                    | 273                                | 264     | 42                             | 44      | 15.4                                    | 16.7    |
| Sorghum .....                   | 549                                | 392     | 181                            | 166     | 33.0                                    | 42.3    |
| Soybeans .....                  | 2,241                              | 1,793   | 610                            | 602     | 27.2                                    | 33.6    |
| Other grains <sup>3</sup> ..... | 290                                | 156     | 33                             | 31      | 11.4                                    | 19.9    |
| Total/average .....             | 10,567                             | 9,177   | 2,799                          | 3,045   | 26.5                                    | 33.2    |

<sup>1</sup>Crop year data from *Field Crops: Production, Disposition, Value*, selected issues, ESCS, USDA.

<sup>2</sup>For the 16 primary regionals and 4 interregionals in fiscal year 1980 and the 16 primary regionals and 3 interregionals in fiscal year 1981. Duplicate volumes were eliminated.

<sup>3</sup>Rye, flaxseed, and sunflower seed.

**Table 8—Proportion of total U.S. farm grain sales handled by the primary regional grain cooperatives, by type of grain, fiscal years ended in 1974-81<sup>1</sup>**

| Type of grain                   | Fiscal year ended in— |      |      |      |      |      |      |      |
|---------------------------------|-----------------------|------|------|------|------|------|------|------|
|                                 | 1974                  | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|                                 | <i>Percent</i>        |      |      |      |      |      |      |      |
| Wheat .....                     | 28.7                  | 35.7 | 31.7 | 34.1 | 34.1 | 40.0 | 30.4 | 34.6 |
| Corn .....                      | 15.7                  | 17.5 | 18.2 | 16.8 | 19.5 | 20.6 | 21.1 | 28.5 |
| Oats .....                      | 19.2                  | 13.7 | 10.5 | 9.3  | 7.0  | 14.1 | 5.3  | 10.0 |
| Barley .....                    | 16.1                  | 17.9 | 16.5 | 20.0 | 19.3 | 20.8 | 15.5 | 16.7 |
| Sorghum .....                   | 19.7                  | 22.2 | 22.6 | 23.8 | 25.3 | 25.2 | 30.3 | 43.3 |
| Soybeans .....                  | 19.3                  | 21.2 | 23.6 | 27.1 | 23.1 | 25.5 | 24.5 | 30.6 |
| Other grains <sup>2</sup> ..... | 27.8                  | 28.5 | 18.0 | 38.9 | 10.7 | 19.3 | 11.2 | 19.7 |
| All grains.....<br>(average)    | 19.6                  | 23.0 | 22.5 | 21.1 | 23.5 | 25.2 | 23.4 | 30.2 |

<sup>1</sup>Percentages are approximate because they were determined by comparing varying fiscal year data for grain cooperatives with crop year data for total U.S. farm grain sales. Fourteen primary grain regionals are included for 1974-77 and 16 for 1978-81.

<sup>2</sup>Rye, flaxseed, and sunflower seed.

## EXPORT DISPOSITION

Grain shipments from primary regional and interregional grain cooperatives to export elevators totaled 2 billion bushels in fiscal year 1981 and 1.8 billion in 1980. The 1981 volume was 50 percent larger than that in 1978 and nearly double the 1976 volume. Corn exports in 1981 were 79 percent larger than those in 1978 and 2.4 times larger than exports in 1976, accounting for 60 and 56 percent, respectively, of increases in total volume. Wheat and soybeans were a distant second and third in their contribution to increased exports. Grain cooperatives steadily increased their share of total grain originations for export from about 30 percent in 1976 to 41 percent in 1981. (See appendix table 5 and table 9 for further 1980 and 1981 export data).

**Table 9—Grain shipments for export originated by regional and interregional grain cooperatives, fiscal year 1981, and U.S. grain exports for calendar years 1980 and 1981.**

| Grain shipments  | Export elevator area |            |             |               |                      |
|--|----------------------|------------|-------------|---------------|----------------------|
|  | Atlantic coast       | Gulf coast | Great Lakes | Pacific coast | Total                |
| Million bushels  |                      |            |             |               |                      |
| Wheat .....  | 21.3                 | 455.1      | 48.2        | 81.8          | 606.4                |
| Corn .....   | 119.6                | 677.3      | 47.1        | 84.9          | 928.9                |
| Sorghum .....  | —                    | 101.9      | —           | 25.1          | 127.0                |
| Soybeans .....   | 35.0                 | 269.6      | 19.5        | —             | 324.1                |
| Other <sup>1</sup> .....                                 | 0.4                  | 0.0        | 38.6        | 6.7           | 45.7                 |
| Total (fiscal year) .....                                | 176.3                | 1,503.9    | 153.4       | 198.5         | 2,032.1              |
| Total U.S. exports in:                                   |                      |            |             |               |                      |
| Calendar year 1980 .....                                 | 528.8                | 2,909.7    | 476.9       | 917.9         | <sup>2</sup> 4,951.7 |
| Calendar year 1981 .....                                 | 515.6                | 3,034.3    | 389.1       | 898.9         | <sup>2</sup> 4,939.3 |
| Two-year average.....                                    | 522.2                | 2,972.0    | 433.0       | 908.4         | 4,945.5              |
| Percent  |                      |            |             |               |                      |
| Co-ops' volume as proportion of total <sup>3</sup> ..... | 33.8                 | 50.6       | 35.4        | 21.9          | 41.1                 |

<sup>1</sup>Oats, barley, rye, flaxseed, and sunflower seed.

<sup>2</sup>Includes 118.4 million bushels (1980) and 101.4 million bushels (1981) exported largely to Mexico by land transportation.

<sup>3</sup>Average annual U.S. exports for calendar years 1980 and 1981 were used for comparison because the grain cooperatives' fiscal years ranged in ending month from April 30 to December 31. U.S. exports are of grains officially inspected and/or weighed for export.



## Proportion of Cooperatives' Grain Shipped to Export

The primary grain regionals and interregionals shipped more than half their grain volume handled to the export market in each of the past 6 years. In 1981, two-thirds of the total volume handled was moved to export ports, compared with 64 percent a year earlier (table 10) and 55 percent in 1976. The highest proportion in 1981 for an individual major grain was 74 percent of the wheat handled, followed by 68 percent of corn and 54 percent of soybeans.

## Shipments to Export Elevators

A significant amount of grain is shipped by primary regional and interregional grain cooperatives to cooperative export elevators and sold for export. They also sell grain at inland cooperative elevators to noncooperative buyers for delivery to noncooperative export elevators. Total of such movements originating with cooperatives makes up the data in this report on export shipments or movements for regional cooperatives.

In 1981, 1.2 billion bushels, or 60 percent of the grain cooperatives' total grain shipments for export, moved to cooperative export elevators (fig. 5).

**Table 10—Total net disposition of grain and volume moved to export by primary regional and interregional grain cooperatives, by type of grain, fiscal years ended in 1980 and 1981<sup>1</sup>**

| Type of grain            | Total net volume handled           |         | Volume moved to port areas |         | Proportion of net volume moved to port areas |      |
|--------------------------|------------------------------------|---------|----------------------------|---------|--|------|
|                          | 1980                               | 1981    | 1980                       | 1981    | 1980   | 1981 |
|                          | <i>----- Million bushels -----</i> |         |                            |         | <i>----- Percent -----</i>                   |      |
| Wheat .....              | 676.7                              | 819.4   | 490.1                      | 606.4   | 72.4   | 74.0 |
| Corn .....               | 1,244.1                            | 1,366.8 | 849.9                      | 928.9   | 68.3   | 68.0 |
| Sorghum .....            | 181.3                              | 165.9   | 126.5                      | 127.0   | 69.8   | 76.6 |
| Soybeans .....           | 610.0                              | 601.9   | 294.1                      | 324.1   | 48.2   | 53.8 |
| Other <sup>2</sup> ..... | 86.8                               | 91.4    | 37.4                       | 45.7    | 43.1   | 50.0 |
| Total/Average .....      | 2,798.9                            | 3,045.4 | 1,798.0                    | 2,032.1 | 64.2   | 66.7 |

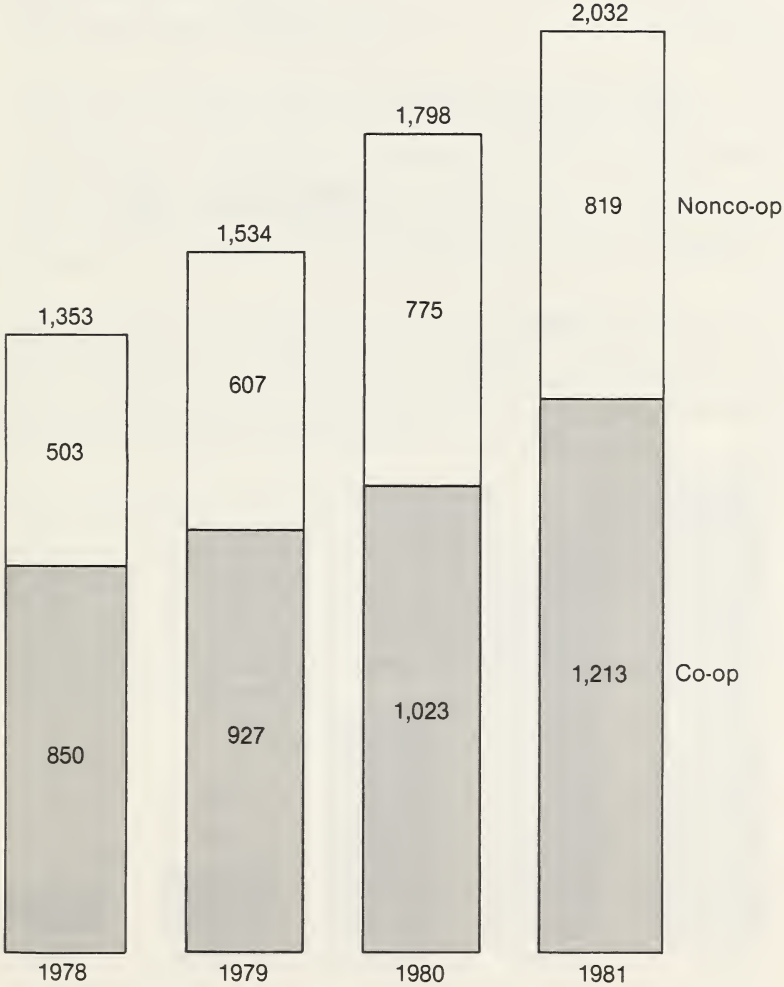
<sup>1</sup>Represents 16 primary regionals and 4 (3 in fiscal year 1981) interregionals.

<sup>2</sup>Oats, barley, rye, flaxseed, and sunflower seed.

Figure 5

**Export Disposition: Grain Shipments to Co-op and Nonco-op Export Elevators, FY 1978-81\***

Million Bushels

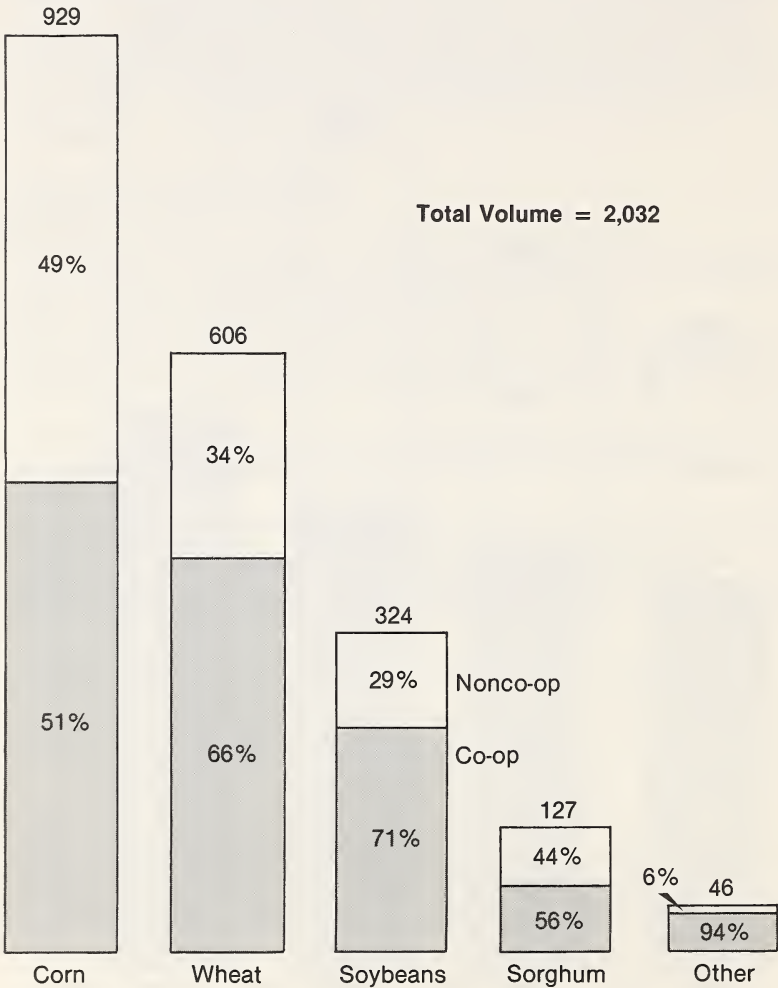


\*For 19 regional and interregional grain cooperatives.

Figure 6

**Grain Shipments to Co-op and Nonco-op Export Elevators,  
by Type of Grain, FY 1981\***

Million Bushels



\*For 19 regional and interregional grain cooperatives.

Proportion among the major grains was highest for soybeans, at 71 percent, followed by wheat at 66 percent (fig. 6). Corn and wheat comprised 72 percent of the total volume of shipments to cooperative export elevators in both 1980 and 1981 (appendix table 6). Soybeans made up about one-fifth of the volume in both years.

### **Shipments to Specific Port Areas**

Largest volume of grain originated for export in 1981 by the primary regional and interregional grain cooperatives was moved to gulf ports—1.5 billion bushels, or 74 percent of the total (table 9). The remaining volume was divided about equally among the Atlantic coast, Great Lakes, and Pacific coast port areas. Of particular interest was the more than doubling from 1979 to 1981 of grain moved to the Pacific coast (mainly to Oregon and Washington ports), from 84 to nearly 200 million bushels.

Corn and wheat, at 45 and 30 percent of the total, comprised most of the gulf shipments. Their combined volume accounted for 84 percent of the total for the Pacific coast area. Corn alone was 68 percent of the volume that arrived at Atlantic coast ports. Most of the lesser crops' volumes originated for export was shipped to Great Lakes ports.

The primary regionals' and interregionals' combined share of U.S. grain export movements was estimated at 41 percent for 1981, a record high, compared with an estimated 35 percent for 1979. Individual port area share changes during 1979-81 varied from increases of 1.3 (Great Lakes), 8 (Pacific), and 10.7 (gulf) percentage points to a decrease of 1.2 (Atlantic). In 1981, these regional and interregional grain cooperatives originated more than half the grain moved to gulf export ports, compared with only 22 percent for the Pacific coast area.

# Appendix

**Appendix table 1 — Location and storage capacity of grain terminals and subterminals, regional and interregional grain cooperatives, 1981.**

| Facility code <sup>1</sup> | Name, location and facilities     | Storage capacity <sup>2</sup> |
|----------------------------|-----------------------------------|-------------------------------|
|                            |                                   | 1,000 bu.                     |
| <b>PRIMARY REGIONALS:</b>  |                                   |                               |
| <b>AGRI Industries</b>     |                                   |                               |
| H                          | Des Moines, Iowa                  |                               |
| E                          | Des Moines, Iowa (2)              | 8,328                         |
| E                          | Meekers Landing, Iowa             | 861                           |
| E                          | McGregor, Iowa                    | 1,224                         |
| E                          | Muscatine, Iowa                   | 1,237                         |
| E                          | Fulton, Ill.                      | 583                           |
| E                          | Houston, Tex.                     | 6,354                         |
| E                          | Council Bluffs, Iowa <sup>3</sup> | 2,000                         |
| S                          | Manning, Iowa                     | 1,117                         |
| S                          | Mason City, Iowa                  | 1,164                         |
|                            | <b>Total</b>                      | <b>22,868</b>                 |
| <b>Far-Mar-Co</b>          |                                   |                               |
| H                          | Hutchinson, Kans.                 |                               |
| E                          | Hutchinson, Kans. (2)             | 23,936                        |
| E                          | South Hutchinson, Kans.           | 1,055                         |
| E                          | Wichita, Kans.                    | 10,430                        |
| E                          | Rock Bluff, Nebr.                 | 258                           |
| E                          | Commerce City, Colo.              | 3,234                         |
| E                          | Fremont, Nebr.                    | 2,146                         |
| E                          | Topeka, Kans.                     | 12,055                        |
| E                          | Kansas City, Kans.                | 10,047                        |
| E                          | Lincoln, Nebr. (2)                | 14,546                        |
| E                          | Omaha, Nebr. (2)                  | 4,266                         |
| E                          | Hastings, Nebr.                   | 15,732                        |
| E                          | Saginaw, Tex.                     | 21,921                        |
| E                          | Galveston, Tex.                   | 3,253                         |
| E                          | Salina, Kans.                     | 2,054                         |
| E                          | Kansas City, Mo. <sup>4</sup>     | 4,300                         |
|                            | <b>Total</b>                      | <b>129,233</b>                |

See footnotes at end of table.

Continued—



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**Farm Bureau Services, Inc.**

|   |                    |       |
|---|--------------------|-------|
| H | Lansing, Mich.     |       |
| E | Ottawa Lake, Mich. | 6,000 |
| E | Saginaw, Mich.     | 2,000 |
| E | Maryville, Mich.   | 300   |
|   | Total              | 8,300 |

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**Farmers Union Grain Terminal Assn.**

|   |                                  |        |
|---|----------------------------------|--------|
| H | St. Paul, Minn.                  |        |
| E | St. Paul, Minn. (No. 1)          | 5,300  |
| E | St. Paul, Minn. (No. 2)          | 1,418  |
| E | Minneapolis, Minn. (Elev. M)     | 1,300  |
| E | Superior, Wis.                   | 18,400 |
| E | Winona, Minn.                    | 305    |
| E | Shelby, Mont.                    | 870    |
| E | Lewiston, Mont.                  | 500    |
| E | Great Falls, Mont.               | 630    |
| E | Sioux City, Iowa                 | 850    |
| E | Janesville, Minn.                | 270    |
| E | Madelia, Minn.                   | 655    |
| E | Mountain Lake, Minn.             | 300    |
| S | Mankato, Minn.                   | 4,000  |
| P | Minneapolis, Minn. (Union Elev.) | 1,200  |
| P | Fridley, Minn.                   | 2,700  |
| P | Winona, Minn.                    | 7,500  |
| P | Milwaukee, Wis.                  | 14,900 |
| P | Chicago, Ill.                    | 3,300  |
| P | Wahpeton, N.D.                   | 1,250  |
| P | Rush City, Minn.                 | 400    |
|   | Total                            | 66,048 |

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**Gold Kist, Inc.**

|   |                            |        |
|---|----------------------------|--------|
| H | Atlanta, Ga.               |        |
| S | Valdosta, Ga.              | 6,000  |
| S | Decatur, Ala. <sup>5</sup> | 7,000  |
| S | Marks, Miss. <sup>5</sup>  | 5,000  |
|   | Total                      | 18,000 |

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See footnotes at end of table.

Continued—

**Appendix table 1 — Continued**

| <b>GROWMARK, Inc.</b>                        |                               |               |
|--|-------------------------------|---------------|
| H  | Bloomington, Ill.             |               |
| E  | Morris, Ill.                  | 550           |
| E  | Hennepin, Ill.                | 450           |
| E  | Lacon, Ill.                   | 194           |
| E  | Creve Coeur, Ill.             | 1,300         |
| E  | Havana, Ill.                  | 670           |
| E  | Naples, Ill.                  | 290           |
| E  | Paxton, Ill.                  | 4,100         |
| E  | Pana, Ill.                    | 793           |
|  | <b>Total</b>                  | <b>8,347</b>  |
| <b>Indiana Farm Bureau Cooperative Assn.</b> |                               |               |
| H  | Indianapolis, Ind.            |               |
| E  | Indianapolis, Ind.            | 10,850        |
| E  | Princeton, Ind.               | 1,500         |
| E  | Louisville, Ky.               | 2,100         |
| E  | Louisville, Ky.               | 140           |
| E  | Baltimore, Md.                | 4,000         |
| E  | Chicago, Ill.                 | 7,795         |
| E  | Red Key, Ind.                 | 5,250         |
| E  | Logansport, Ind.              | 4,600         |
| E  | Cincinnati, Ohio              | 1,733         |
| E  | Evansville, Ind. <sup>5</sup> | 300           |
| E  | New Albany, Ind.              | 140           |
|  | <b>Total</b>                  | <b>38,408</b> |
| <b>Landmark, Inc.</b>                        |                               |               |
| H  | Columbus, Ohio                |               |
| E  | Columbus, Ohio                | 5,550         |
| E  | Sidney, Ohio                  | 1,450         |
| E  | Kenton, Ohio                  | 1,500         |
| E  | Lima, Ohio                    | 500           |
| E  | Wooster, Ohio                 | 580           |
| E  | Latty, Ohio                   | 1,160         |
| E  | Grafton, Ohio                 | 820           |
| E  | Silver Grove, Ky.             | 315           |
|  | <b>Total</b>                  | <b>11,875</b> |

See footnotes at end of table.

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| <b>MFC Services (AAL)</b> |                 |              |
|---------------------------|-----------------|--------------|
| H                         | Madison, Miss.  |              |
| E                         | Lettsworth, La. | 300          |
| E                         | Mounds, La.     | 900          |
|                           | Total           | <u>1,200</u> |

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| <b>Missouri Farmers Assn.</b> |                               |               |
|-------------------------------|-------------------------------|---------------|
| H                             | Columbia, Mo.                 |               |
| S                             | Mexico, Mo.                   | 3,068         |
| E                             | Louisiana, Mo.                | 2,646         |
| E                             | Hannibal, Mo.                 | 1,383         |
| E                             | Caruthersville, Mo.           | 1,908         |
| E                             | Hull, Ill.                    | 1,083         |
| E                             | Lamar, Mo.                    | 1,091         |
| E                             | Kansas City, Mo. <sup>4</sup> | 4,300         |
|                               | Total                         | <u>15,479</u> |

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| <b>North Pacific Grain Growers, Inc.</b> |                  |               |
|--|------------------|---------------|
| H  | Portland, Oreg.  |               |
| E  | Kalama, Wash.    | 6,487         |
| E  | Kennewick, Wash. | 5,300         |
| E  | Spokane, Wash.   | 1,862         |
|  | Total            | <u>13,649</u> |

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| <b>Ohio Farmers Grain, Corp.</b> |                 |              |
|----------------------------------|-----------------|--------------|
| H                                | Fostoria, Ohio  |              |
| E                                | Fostoria, Ohio  | 7,500        |
| E                                | Mansfield, Ohio | 1,200        |
| E                                | Alger, Ohio     | 950          |
|                                  | Total           | <u>9,650</u> |

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See footnotes at end of table.

Continued—

**Appendix table 1 — Continued**

|  |                      |                |
|--|----------------------|----------------|
| <b>Producers Grain Corp.<sup>6</sup></b> |                      |                |
| H  | Amarillo, Tex.       |                |
| E  | Amarillo, Tex. (2)   | 11,545         |
| E  | Plainview, Tex.      | 4,800          |
| E  | Lubbock, Tex.        | 8,073          |
| E  | Fort Worth, Tex.     | 6,500          |
| E  | Corpus Christi, Tex. | 6,392          |
|  | Total                | 37,310         |
| <b>Riceland Foods, Inc.<sup>7</sup></b>  |                      |                |
| H  | Stuttgart, Ark.      |                |
| S  | Stuttgart, Ark.      | 7,147          |
| S  | Helena, Ark.         | 7,193          |
|  | Total                | 14,340         |
| <b>Union Equity Cooperative Exchange</b> |                      |                |
| H  | Enid, Okla.          |                |
| E  | Enid, Okla.          | 50,500         |
| E  | Fort Worth, Tex.     | 11,830         |
| E  | Houston, Tex.        | 8,500          |
|  | Total                | 70,830         |
| <b>Total for primary regionals</b>       |                      | <b>465,537</b> |

**INTERREGIONALS**

**Farmers Export Co.**

|                                   |                      |       |
|-----------------------------------|----------------------|-------|
| H                                 | Overland Park, Kans. |       |
| E                                 | Ama, La.             | 5,500 |
| E                                 | Philadelphia, Pa.    | 3,700 |
|                                   | Total                | 9,200 |
| <b>Mid-States Terminals, Inc.</b> |                      |       |
| H                                 | Toledo, Ohio         |       |
| E                                 | Toledo, Ohio         | 8,600 |
|                                   | Total                | 8,600 |

| <b>St. Louis Grain Corp.</b>                        |                |         |
|---|----------------|---------|
| H   | St. Louis, Mo. |         |
| E   | St. Louis, Mo. | 10,945  |
|   | Total          | 10,945  |
| <b>Total for interregionals</b>                     |                | 28,745  |
| <b>GRAND TOTAL FOR REGIONALS AND INTERREGIONALS</b> |                | 494,282 |

<sup>1</sup>Facility code: (H) headquarters office, (E) elevator, (S) soybean processing plant, (P) other processing plant.

<sup>2</sup> Storage capacity does not include country grain elevators owned by or affiliated with regionals.

<sup>3</sup> Destroyed by explosion on April 20, 1982.

<sup>4</sup>Represents half the storage capacity of Kansas City Terminal Elevator Co. owned and operated jointly by Far-Mar-Co and MFA.

<sup>5</sup>Facilities have subsequently been sold.

<sup>6</sup>Producers Grain Corporation discontinued buying and selling grain in 1982. Facilities were leased to AGRI Industries, except for port elevator at Corpus Christi, which was sold to a noncooperative firm.

<sup>7</sup>Storage capacity shown for Riceland Foods, Inc., includes only capacity of 2 large terminals used for soybeans. Total marketing system of Riceland has about 94 million bushels of capacity for both soybeans and rice in country elevators, terminals, and rice mills.



**Appendix table 2—Location of terminal grain facilities on water, regional and interregional grain cooperatives, fiscal year 1981**

| Regional or interregional grain cooperative (name and elevator location) | River, lake, or coast location | Storage capacity   |
|--|--------------------------------|--------------------|
|  |                                | 1,000 bu.          |
| <b>PRIMARY REGIONALS:</b>  |                                |                    |
| <b>AGRI Industries</b>   |                                |                    |
| Des Moines, Iowa   |                                |                    |
| McGregor, Iowa   | Mississippi R.                 | 1,224              |
| Meekers Landing, Iowa  | Mississippi R.                 | 861                |
| Muscatine, Iowa  | Mississippi R.                 | 1,237              |
| Houston, Tex.  | Gulf coast                     | 6,354              |
| Fulton, Ill.   | Mississippi R.                 | 583                |
|  | Total                          | 10,259             |
| <b>Far-Mar-Co</b>  |                                |                    |
| Hutchinson, Kans.  |                                |                    |
| Rock Bluff, Nebr.  | Missouri R.                    | 258                |
| Kansas City, Kans.   | Missouri R.                    | 10,508             |
| Galveston, Tex.  | Gulf coast                     | 3,000              |
| Kansas City, Mo.   | Missouri R.                    | <sup>1</sup> 2,100 |
|  | Total                          | 15,866             |
| <b>Farm Bureau Services, Inc.</b>  |                                |                    |
| Lansing, Mich.   |                                |                    |
| Saginaw, Mich.   | Lake Huron                     | 2,000              |
|  | Total                          | 2,000              |
| <b>Farmers Union Grain Terminal Assn.</b>                                |                                |                    |
| St. Paul, Minn.  |                                |                    |
| St. Paul, Minn. (No. 1)  | Mississippi R.                 | 5,300              |
| St. Paul, Minn. (No. 2)  | Mississippi R.                 | 1,418              |
| Superior, Wis.   | Lake Superior                  | 18,400             |
| Winona, Minn.  | Mississippi R.                 | 305                |
|  | Total                          | 25,423             |

See footnotes at end of table.

Continued—

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**GROWMARK, Inc.**

|                   |             |       |
|-------------------|-------------|-------|
| Bloomington, Ill. |             |       |
| Morris, Ill.      | Illinois R. | 550   |
| Hennepin, Ill.    | Illinois R. | 450   |
| Lacon, Ill.       | Illinois R. | 194   |
| Creve Coeur, Ill. | Illinois R. | 1,300 |
| Havana, Ill.      | Illinois R. | 670   |
| Naples, Ill.      | Illinois R. | 290   |
|                   | Total       | 3,454 |

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**Indiana Farm Bureau Cooperative Assn.**

|                    |                |                  |
|--------------------|----------------|------------------|
| Indianapolis, Ind. |                |                  |
| Baltimore, Md.     | Atlantic coast | 4,000            |
| Chicago, Ill.      | Lake Michigan  | 7,795            |
| Cincinnati, Ohio   | Ohio R.        | 1,483            |
| Louisville, Ky.    | Ohio R.        | 140              |
| Evansville, Ind.   | Ohio R.        | <sup>2</sup> 300 |
|                    | Total          | 13,718           |

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**Landmark, Inc.**

|                   |         |     |
|-------------------|---------|-----|
| Columbus, Ohio    |         |     |
| Silver Grove, Ky. | Ohio R. | 315 |
|                   | Total   | 315 |

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**Missouri Farmers Assn.**

|                     |                |                    |
|---------------------|----------------|--------------------|
| Columbia, Mo.       |                |                    |
| Caruthersville, Mo. | Mississippi R. | 1,908              |
| Hannibal, Mo.       | Mississippi R. | 1,383              |
| Louisiana, Mo.      | Mississippi R. | 2,646              |
| Kansas City, Mo.    | Missouri R.    | <sup>1</sup> 2,100 |
|                     | Total          | 8,037              |

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**North Pacific Grain Growers, Inc.**

|                  |               |        |
|------------------|---------------|--------|
| Portland, Oreg.  |               |        |
| Kalama, Wash.    | Pacific coast | 6,487  |
| Kennewick, Wash. | Columbia R.   | 5,300  |
|                  | Total         | 11,787 |

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See footnotes at end of table.

Continued—

## Appendix table 2—Continued

|   |                |         |  |
|---|----------------|---------|--|
| <b>Producers Grain Corp.</b>                        |                |         |  |
| Amarillo, Tex.                                      |                |         |  |
| Corpus Christi, Tex.                                | Gulf coast     | 6,392   |  |
|   | Total          | 6,392   |  |
| <b>Riceland Foods, Inc.</b>                         |                |         |  |
| Stuttgart, Ark.                                     |                |         |  |
| Helena, Ark.  | Mississippi R. | 7,193   |  |
|   | Total          | 7,193   |  |
| <b>Union Equity Cooperative Exchange</b>            |                |         |  |
| Enid, Okla.   |                |         |  |
| Houston, Tex.                                       | Gulf coast     | 8,500   |  |
|   | Total          | 8,500   |  |
| <b>Total for primary regionals</b>                  |                | 112,944 |  |
| <b>INTERREGIONALS:</b>                              |                |         |  |
| <b>Farmers Export Co.</b>                           |                |         |  |
| Overland Park, Kans.                                |                |         |  |
| Ama, La.  | Gulf coast     | 5,500   |  |
| Philadelphia, Pa.                                   | Atlantic coast | 3,700   |  |
|   | Total          | 9,200   |  |
| <b>Mid-States Terminal Elevator</b>                 |                |         |  |
| Toledo, Ohio  | Lake Erie      | 8,600   |  |
|   | Total          | 8,600   |  |
| <b>St. Louis Grain Corp.</b>                        |                |         |  |
| St. Louis, Mo.                                      | Mississippi R. | 7,830   |  |
|   | Total          | 7,830   |  |
| <b>Total for interregionals</b>                     |                | 25,630  |  |
| <b>GRAND TOTAL FOR REGIONALS AND INTERREGIONALS</b> |                | 138,574 |  |

<sup>1</sup>Represents half of the storage capacity of Kansas City Terminal Elevator Co. owned and operated jointly by Far-Mar-Co and MFA.

<sup>2</sup>Facilities have subsequently been sold.

**Appendix table 3—Total net disposition by type of outlet for the 16 primary regional and 4 interregional grain cooperatives, fiscal years ended in 1978-81<sup>1</sup>**

| Type of outlet                           | Fiscal year ended in— |       |       |       |
|--|-----------------------|-------|-------|-------|
|  | 1978                  | 1979  | 1980  | 1981  |
| <i>Million bushels</i>                   |                       |       |       |       |
| Domestic disposition:                    |                       |       |       |       |
| Grain processed in own plant.....        | 162                   | 205   | 196   | 178   |
| Domestic sales of grain.....             | 656                   | 716   | 805   | 835   |
| Subtotal.....                            | 818                   | 921   | 1,001 | 1,013 |
| Export disposition: <sup>2</sup>         |                       |       |       |       |
| Through co-op port elevators .....       | 850                   | 927   | 1,023 | 1,213 |
| Through nonco-op port elevators .....    | 503                   | 607   | 775   | 819   |
| Subtotal.....                            | 1,353                 | 1,534 | 1,798 | 2,032 |
| Total net disposition <sup>3</sup> ..... | 2,171                 | 2,455 | 2,799 | 3,045 |

<sup>1</sup>Fiscal year 1981 included 3 interregionals.

<sup>2</sup>The total grain shipped to a port position.

<sup>3</sup>Reflects elimination of duplicate volumes among regionals, adjustments for final regional disposition, and additions of nonmember volumes of the interregionals.

**Appendix table 4—Total net disposition by type of grain for the 16 primary regional and 4 interregional grain cooperatives, fiscal years ended in 1978-81<sup>1</sup>**

| Type of grain          | Fiscal year ended in— |       |       |       |
|------------------------|-----------------------|-------|-------|-------|
|                        | 1978                  | 1979  | 1980  | 1981  |
| <i>Million bushels</i> |                       |       |       |       |
| Wheat .....            | 690                   | 694   | 677   | 819   |
| Corn .....             | 797                   | 969   | 1,244 | 1,367 |
| Oats .....             | 21                    | 31    | 12    | 17    |
| Barley .....           | 59                    | 69    | 42    | 44    |
| Sorghum .....          | 152                   | 134   | 181   | 166   |
| Soybeans .....         | 437                   | 524   | 610   | 602   |
| Rye .....              | 1                     | 3     | 3     | 3     |
| Flaxseed .....         | 4                     | 5     | 5     | 4     |
| Sunflower seed .....   | 10                    | 26    | 25    | 23    |
| Total                  | 2,171                 | 2,455 | 2,799 | 3,045 |

<sup>1</sup>Fiscal year 1981 included 3 interregionals.



**Appendix table 5—Export disposition: Grain movements to export elevators, by type of grain, by the primary regional and interregional grain cooperatives, fiscal years ended in 1978-81<sup>1</sup>**

| Type of grain            | Fiscal year ended in—  |         |         |         |
|--------------------------|------------------------|---------|---------|---------|
|                          | 1978                   | 1979    | 1980    | 1981    |
|                          | <i>Million bushels</i> |         |         |         |
| Wheat .....              | 478.0                  | 513.2   | 490.1   | 606.4   |
| Corn .....               | 518.6                  | 641.2   | 849.9   | 928.9   |
| Sorghum .....            | 108.3                  | 86.4    | 126.5   | 127.0   |
| Soybeans .....           | 226.2                  | 246.6   | 294.1   | 324.1   |
| Other <sup>2</sup> ..... | 22.1                   | 46.3    | 37.4    | 45.7    |
| Total.....               | 1,353.2                | 1,533.7 | 1,798.0 | 2,032.1 |

<sup>1</sup>Sixteen primary regionals are included for 1978-81. Four interregionals are included for 1978-80 and 3 for 1981. Duplicate volumes between the primary regionals and interregionals were eliminated.

<sup>2</sup>Oats, barley, rye, flaxseed, and sunflower seed.

**Appendix table 6—Export disposition: Summary of types of grain moved to cooperative and noncooperative export elevators by the primary regional and interregional grain cooperatives, fiscal years ended in 1980 and 1981<sup>1</sup>**

| Type of grain            | Total moved to export | Type of port elevator       |         |          |         | Proportion of total to co-op elevators |         |
|--------------------------|-----------------------|-----------------------------|---------|----------|---------|--|---------|
|                          |                       | Co-op                       |         | Nonco-op |         | FY 1980                                | FY 1981 |
|                          |                       | FY 1980                     | FY 1981 | FY 1980  | FY 1981 |  |         |
|                          |                       | ..... Million bushels ..... |         |          |         | ..... Percent .....                    |         |
| Wheat .....              | 490.1                 | 606.4                       | 397.8   | 179.9    | 208.6   | 63.3                                   | 65.6    |
| Corn .....               | 849.9                 | 928.9                       | 471.5   | 427.3    | 457.4   | 49.7                                   | 50.8    |
| Sorghum .....            | 126.5                 | 127.0                       | 69.9    | 71.9     | 57.1    | 43.2                                   | 55.0    |
| Soybeans .....           | 294.2                 | 324.1                       | 230.3   | 93.6     | 93.8    | 68.2                                   | 71.1    |
| Other <sup>2</sup> ..... | 37.3                  | 45.7                        | 43.2    | 2.3      | 2.5     | 93.8                                   | 94.5    |
| Total/average .....      | 1,798.0               | 2,032.1                     | 1,212.7 | 775.0    | 819.4   | 56.9                                   | 59.7    |

<sup>1</sup>Represents the 16 primary regionals and 4 (3 in FY 1981) interregionals.

<sup>2</sup>Oats, barley, rye, flaxseed, and sunflower seed.









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## U.S. Department of Agriculture

### Agricultural Cooperative Service

Agricultural Cooperative Service provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The agency (1) helps farmers and other rural residents obtain supplies and services at lower costs and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

The agency publishes research and educational materials, and issues *Farmer Cooperatives*. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, or national origin.